



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105

December 14, 2015

Mark Petersen
HQ PACAF/PA
25 E Street, Suite G-108
Joint Base Pearl Harbor-Hickam, Hawaii 96853

Subject: Revised Draft Environmental Impact Statement (RDEIS) for Divert Activities and Exercises, Commonwealth of the Northern Mariana Islands (CEQ 20150289)

Dear Mr. Petersen:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. Our detailed comments are enclosed.

The Revised Draft Environmental Statement (RDEIS) updates the 2012 DEIS with modified alternatives for facility construction at Saipan International Airport and/or Tinian International Airport to support a combination of aircraft and support personnel for divert operations, periodic exercises, and humanitarian assistance/disaster relief. The Air Force has not identified a preferred alternative in the RDEIS. Therefore, in accordance with EPA's *Policy and Procedures for the Review of Federal Actions Impacting the Environment*, we are rating individual alternatives evaluated in the RDEIS.

Through a comment letter to the Air Force on July 26, 2012, EPA rated the 2012 DEIS Preferred Alternative 1 as *Environmental Objections – Insufficient Information* (EO-2) (see enclosed "Summary of Rating Definitions") due to severe noise impacts predicted for residents on Saipan for 8 weeks per year. The alternatives in the RDEIS no longer include fighter jet aircraft as part of the training exercises and, as a result, noise levels would be much reduced. While this alleviates our noise objections, EPA is concerned that the revised analysis uses a new metric that averages the noise that would be generated during 8 weeks of training over the course of a year, artificially reducing predicted noise levels and presenting noise impacts in a manner that is not consistent with how the noise would be experienced by the public. Because of this, we are rating Alternative 1 in the RDEIS as *Environmental Concerns – Insufficient Information* (EC-2). We strongly recommend that the Air Force reassess noise impacts using the noise metric and methodology that was previously used in the 2012 DEIS in order to clearly disclose project noise levels in the Revised Final EIS as they would be experienced by residents for 8 weeks/year.

We have rated the Tinian alternatives (Alternatives 2 and 3) in the RDEIS as *Environmental Objections – Insufficient Information* (EO-2), based on potentially significant impacts to the drinking water system that should be avoided to adequately protect the environment. The RDEIS does not sufficiently evaluate the impacts of the project on the drinking water utility and the amount of water available from the CUC system on Tinian may not be sufficient to meet the construction-phase demand for the project. The CUC is under a Stipulated Order to bring its drinking water system into compliance with the Safe

Drinking Water Act and is in "severe distress" financially, according to a recent CUC quarterly report. If the military action would place an additional financial burden on CUC, this would be a significant impact to the utility and could compromise the public's access to drinking water. The Marine Corps recently published the CNMI Joint Military Training (CJMT) DEIS (April 2015) and is now conducting supplemental analyses of impacts of that project on the Tinian drinking water system. We recommend that the Air Force consult the technical appendices of the CJMT DEIS, and work closely with the Marine Corps, to better assess the construction-phase impacts of Divert Activities and Exercises on the drinking water system. We also recommend close coordination of construction scheduling with the Marine Corps, if a Tinian alternative is selected, to ensure that the capacity of the drinking water system is not exceeded and access to drinking water by the local population is not affected.

We appreciate the opportunity to review this Revised DEIS and look forward to working with the Air Force to address the issues outlined above and in the enclosed Detailed Comments. If you have any questions, please refer staff to Karen Vitulano, lead reviewer of the RDEIS, at (415) 947-4178, or to Kathleen Goforth, Manager of the Environmental Review Section, at 415-972-3521. Please send a copy of the Final Revised EIS to this office (mail code ENF-4-2) when it is electronically filed with our Washington, D.C. office.

Sincerely,



Kathleen H. Johnson, Director
Enforcement Division

Enclosure: Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: John Warner, Federal Aviation Administration
Sherri Eng, MARFORPAC
Wesley M. Bogdan, CNMI Office of the Lt. Governor
Frank M. Rabauliman, CNMI Bureau of Environmental and Coastal Quality (BECQ)
Fran Castro, BECQ Division of Coastal Resources Management
John Riegel, Commonwealth Utilities Corporation (CUC)

Impacts to drinking water

While not formally designated as a Sole Source Aquifer under the Safe Drinking Water Act, groundwater is the sole source of drinking water on Tinian and meets the definition of a sole or principal source aquifer¹. The Commonwealth Utilities Corporation (CUC) supplies drinking water to the island via a single public water well. Given the limited source of drinking water available on Tinian, it is critical that estimates of impacts to available drinking water be fully analyzed, disclosed and mitigated. The RDEIS for the Divert Activities and Exercises, Commonwealth of the Northern Mariana Islands (Divert Project) does not sufficiently assess the Proposed Action's impacts on the CUC for the Tinian Alternatives, nor does it include a complete estimate of construction-phase water demand.

The water demand identified in the RDEIS for the construction phase includes only the amount of water that would be used for dust suppression. Other construction water use, such as concrete mixing, rinsing new water pipes, hydrotesting new water storage tanks, etc. is not included. In addition, the water demand from the 500-750 construction workers is not analyzed, and it is unclear if this estimated number of workers includes dependents. If it does not, the estimated water demand would be even higher, since, as the RDEIS acknowledges, Tinian does not have the construction workforce needed and it is assumed that 85% of these workers would be from off-island (p. 4-176, 4-117). The estimated water demand for dust suppression alone is 51,500 gallons per day (gpd) for 3 years for the North option (32,500 gpd for the South option). Consumption by the construction workforce would be a substantial addition to this construction-phase estimate. The RDEIS estimates the water consumption demand during the implementation phase at 98 gpd per person, which, if applied to the construction workforce would calculate at an additional 49,000 - 73,500 gpd water demand. The RDEIS identifies the amount of water Tinian is able to generate at 1.26 million gallons per day, which appears to be a high estimate averaging the generation for wet and dry seasons. Since, as the RDEIS acknowledges, water supply issues are intensified during the dry season (p. 3-110), it would be more conservative to utilize the dry season estimate for the analysis.

The RDEIS does not calculate the amount of water that would be available to be pumped from the CUC system therefore it is unclear whether the CUC could accommodate the water demand. We note that the CJMT DEIS calculated, using the wet/dry season average pump rate, that there would be 50,862 gpd available to the Tinian population after losses in the distribution system (CJMT DEIS p. 4-414). The CJMT DEIS utilized a water loss or "unaccounted for water" (UFW) rate of 75% for this calculation. The Divert RDEIS estimates the unaccounted for water (UFW) in the CUC distribution system at 50%, referencing a 2011 National Renewable Energy Laboratory (NREL) Report, which may not be the most updated estimate. The CUC Drinking Water and Wastewater Master Plan estimates the UFW for Tinian to be 74%.

If the 50,862 gpd value of available water is accurate, it appears that the construction-phase water demand for Divert would substantially exceed the amount potentially available from the CUC system. This would counter the conclusion in the RDEIS that adverse impacts from the Divert Project would be

¹ EPA defines a sole or principal source aquifer as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. These areas may have no alternative drinking water source(s) that could physically, legally and economically supply all those who depend on the aquifer for drinking water.

negligible on the water supply (p. 4-149). Additionally, the CJMT DEIS, Appendix P (p. 2-1) notes that three of the four pumps serving the Tinian drinking water well are operating almost constantly, and because one pump is kept on standby for maintenance purposes, the well is operating near full capacity. If this is correct, the CUC public water well may not realistically be able to support the projected increase in water use when it is already operating at near capacity. The CUC is under a Stipulated Order to bring its drinking water system, primarily on Saipan, into compliance with the Safe Drinking Water Act and to provide comprehensive planning for current and future infrastructure needs with regard to groundwater protection and drinking water supplies on Tinian. According to a recent CUC quarterly progress report², the utility continues to struggle financially and is in “severe distress”. CUC also recently reported that it currently lacks approximately 20 percent of the manpower needed to successfully operate and maintain its facilities³.

The cumulative impacts to the drinking water utility would be even greater. The cumulative impact assessment does acknowledge that the combination of the Divert Project with other construction projects, particularly the CJMT proposal, the large hotel resorts, and the new homestead development, would place much greater demands on utilities because of the increased worker population and level of construction (p. 5-37). The RDEIS notes the pre-existing potable water utility deficiencies that can contribute to potential impacts but states only that the Air Force would coordinate with the CUC to ensure water supply is sufficient (p. 5-37). The Air Force proposes no mitigation for its impact on the CUC system. If the proposed military action could place an additional financial burden on CUC, potentially compromising the public’s access to drinking water, EPA believes this would be a significant impact.

Recommendation: Quantify the full construction-phase demand for all alternatives. Revise the analysis to use the dry season estimate for the amount of water the CUC system on Tinian can generate, and explain or revise the UFW value used.

Discuss the capacity of the water system and limitations of the CUC system regarding ability to pump and amount of manpower available.

If the construction phase would place an additional financial burden on CUC, potentially compromising the public’s access to drinking water, identify those significant impacts on the CUC utility for the Tinian alternatives.

Identify specific mitigation that the Air Force would implement to reduce impacts to the drinking water system. Potential mitigation could include assistance in reducing the high UFW in the CUC system.

In the Revised Final EIS (RFEIS), identify specific measures to coordinate with the Marine Corps on their CJMT supplemental analysis of impacts to the CUC system to ensure any cumulative water demand is considered and construction timelines are scheduled to minimize simultaneous water demand on the CUC system, if applicable.

² STIPULATED ORDER NO. 1; Item 69, Quarterly Progress Report No. 25, January 29, 2015 - April 28, 2015.

Submitted to EPA by Alan W. Fletcher, Executive Director, Commonwealth Utilities Corporation, on April 27, 2015.

³ *Draft Groundwater Management and Protection Plan*, Commonwealth of the Northern Mariana Islands, Prepared for Commonwealth Utilities Corporation, Dueñas, Camacho & Associates and CH2M, May 2015

Noise Impacts

Impact assessment methodology

EPA had raised environmental objections regarding the very high noise levels predicted under the original 2012 DEIS's Preferred Alternative on Saipan, especially under the medium and high scenarios which would have subjected over 11,000 residents to noise levels considered incompatible with residential land use. The high scenario would have exposed some residents to noise levels above 80 A-weighted decibels (dBA) which can cause hearing loss. In our comments, EPA requested an evaluation as to whether an alternative that would operate under only the low scenario (no fighter jets) would meet the project purpose and need. We are pleased that for the revised Proposed Action, the Air Force is no longer including fighter jet aircraft as part of the training exercises. This change is substantial enough to result in much reduced noise levels. However, the decision to alter the noise methodology used to assess and disclose noise impacts in the RDEIS is the basis for continuing environmental concerns because the updated methodology generates artificially low noise estimates which are incongruent with the manner in which humans experience noise. The conclusion that impacts are less than significant was based on this methodology and EPA is concerned that impacts may result that are not disclosed in the RDEIS.

In the RDEIS, the Air Force has changed the primary metric used to express noise that would occur during the Proposed Action's 8-weeks of training from the Average Busy Day (ABD), to the Average Annual Day (AAD). AAD was calculated by dividing the total number of aircraft operations that are conducted during the 8-week training period by 365 days to obtain an average number of operations per day. The AAD results were used to evaluate significance for noise (p. 4-4). EPA cautioned strongly against such a methodology, when it was suggested by the Air Force during a noise-related conference call with EPA on August 2, 2012, because it would not represent how noise is actually experienced by human receptors. The RDEIS states that the AAD noise contours were added to maintain noise analysis consistency across USAF EIS documents and since the baseline noise analysis was estimated using 365 days per year, noise from proposed military aircraft operations was also estimated using 365 days per year to be able to compare noise impacts directly to the baseline (p. 3-1). When EPA identified the Day-Night Average Sound Level, DNL, as the most appropriate measure to describe cumulative noise exposure during an average annual day in its "Levels" document⁴, it was based on several considerations, including the applicability of the measure "to the evaluation of pervasive long-term noise in various defined areas and under various conditions over long periods of time", as well as the close correlation of the measure "with known effects of the noise environment on the individual and the public". The altered use of the cumulative noise metric, developed by the Air Force in this analysis, is inconsistent with these considerations and does not sufficiently assess and disclose shorter term noise exposures to the public.

While the RDEIS includes the ABD noise contour map and one paragraph discussing it, the RDEIS includes no information regarding land use or population receptors within noise contours. The 2012 Divert Project DEIS "low scenario" analysis indicated that over 1,200 acres of off-airport property for the Saipan Alternative would be incompatible with residential land use, with almost 200 of these acres in the higher 70-74 dBA contour, during the 8-week training exercises. For Tinian, 400 acres would be

⁴ "Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety," U. S. EPA Report No. 550/9-74-004, September 1974

incompatible, with 73 acres in the 70-74 dB contour (DEIS p. 4-20). We understand this may not represent the revised Proposed Action, but the Air Force had suggested consulting this analysis in response to our requests for additional information regarding the noise analysis⁵.

The AAD metric was also used in the assessment of both land use and environmental justice impacts, which influences the impact assessment conclusions presented in the RDEIS for these analyses.

Recommendation: We strongly recommend that the AAD metric be removed from the RFEIS and that the Air Force use the ABD metric for the noise impact assessment, as it did in the 2012 Divert DEIS.

Identify representative points of interest, population receptors, and acres exposed to ABD project noise levels and compare with baseline conditions.

Update the land use and environmental justice analyses to include an estimate of noise levels using the ABD metric.

Disclosing noise impacts to quiet rural environments

EPA generally accepts the use of 65 dBA DNL as appropriate for a significance threshold for noise impacts since this corresponds with residential land use compatibility. However, in very quiet existing environments, especially the rural atmosphere on Tinian, the amount of noise increase should also be considered when assessing noise impacts. The RDEIS identifies baseline noise levels at noise-sensitive receptors around Tinian airport as less than 45 dBA (p. 3-92). (We note that the CJMT DEIS identifies some residential locations as higher than 45: Marpo Heights at 45.4 dBA, and Northeast of Marpo Heights at 48.5 dBA). For this quiet setting, a change of exposure analysis is helpful, along with a discussion that provides meaningful information to the public as to how the project will affect their lived noise environment. Because no change of noise exposure data is provided, there is no indication of the extent that Tinians will experience a degradation of their noise environment. The Federal Interagency Committee on Noise (FICON) Technical Subgroup characterized a 3 dB increase in noise as “a large change” in the level of noise exposure when the existing condition is below 65 dB, and noted that this increase can be perceived by people as a degradation of their noise environment⁶. Because decibels are on a logarithmic scale, an increase of 10 dBs represents a subjective doubling of loudness⁷. The RDEIS should attempt to disclose the change in noise environment that residents would experience during training exercises in a meaningful way.

Recommendations: Provide a change of exposure analysis for residents for the Saipan and Tinian Alternatives. Discuss how the increases in noise that would occur during the 8-week training period would be perceived by residents (i.e. whether it would represent a doubling or greater increase in loudness, etc.).

⁵ Telephone conversation between Karen Vitulano, USEPA, and Mark Petersen, USAF, November 10, 2015

⁶ Federal Interagency Committee on Noise (FICON), August 1992. *Federal Agency Review of Selected Airport Noise Analysis Issues*. p. 3-5. Available: <http://www.fican.org/pdf/nai-8-92.pdf>

⁷ *ibid*

Project interface with CNMI Joint Military Training (CJMT) not explained

The Tinian Alternatives in the RDEIS have elements that are identical with components of the CNMI Joint Military Training (CJMT) action, which is also undergoing NEPA review. Both projects propose improvements at the Tinian airport, including fuel tanks, cargo pad, access roads, aircraft parking apron/ramp, and military taxiways. For the Tinian Alternative North option, these facilities are located in the same locations. Both projects also propose fuel tanks at the Port of Tinian. The RDEIS does not discuss how these two projects will interface, whether they would be shared spaces or if it's possible that these projects would both occur in different locations (e.g. both north and south areas of Tinian airport being developed). Additionally, both the Divert Project and the CJMT EISs state that their construction workforces would likely be housed at the Tinian Dynasty Hotel and Casino, which would not appear to support both workforces simultaneously. Based on discussions with the Air Force and Marines, we understand if the Air Force selects the Tinian Alternative North option, it is likely that only one project's elements would be constructed at the airport, however this is not explained to the public in the RDEIS.

Recommendation: Explain how the Marines and Air Force Proposed Actions at Tinian's airport and seaport would interface. If there is the possibility that both projects would proceed with construction at Tinian airport, identify the Divert project schedule, if/how it would overlap with the CJMT construction schedule, and how housing needs and utility demands would be accommodated.

Port Improvements as a Connected Action

The Proposed Action involves the transfer of large amount of fuel and bulk fuel storage at the Ports of Tinian or Saipan. For the Tinian and Hybrid Alternatives, the Port of Tinian would be used, however the RDEIS states that the Port of Tinian is currently in disrepair and has a limited capability to accept fuel shipments at the port (p. 3-113). We are aware that the harbor has no fixed shore-side cranes or lighting, and two finger piers west of the main wharf are in complete disrepair and unusable. The rehabilitation of the Tinian pier appears to be vital to the implementation of this project for the Tinian alternatives. Unless the action can proceed using Tinian Pier in its current deteriorated state, rehabilitation of the pier appears to be a connected action (40 CFR 1508.25(a)(1)(ii)).

Recommendation: Discuss whether the project could proceed without the rehabilitation of the Tinian Pier and, if it could not, evaluate the environmental impacts from rehabilitation of the pier as a connected action in the RFEIS.

Solid Waste

The document presents no definitive proposal for the final disposition of solid waste for the Tinian and Hybrid Alternatives. The RDEIS states only that contractors hired for the various construction projects would be responsible for the removal and disposal of their construction wastes generated on site (p. 4-150) and because there is a lack of municipal solid waste facilities on Tinian, construction debris would have to be collected and transported off the island using commercial solid waste haulers and commercial barges or ships until a permitted municipal solid waste facility is constructed (p. 4-151). There is no commitment to recycling or composting the waste, as required by Executive Order 13693 and DoD Policy, and it is not clear if the amount of green waste from the clearing of over 82 acres of Tangantangan Ironwood scrub and forest vegetation on Tinian is included in the construction waste totals (p. 4-71). Composting facilities may be an option for the green waste, but that does not appear to have been explored. The Marine Corps is proposing to process all green waste for reuse on island, e.g., as mulch and compost for their future actions on Tinian.

There are limitations to the proper disposal of solid waste at nearby landfills. There are no RCRA compliant solid waste landfills on Tinian. The Marpi landfill on Saipan has only one landfill cell in operation and it is full. The Department of the Navy has had discussions with EPA and the CNMI government about utilizing the Marpi landfill for CJMT waste; however, the Marpi landfill would require the opening and construction of new cells for which the CNMI government does not have complete funding. The landfills on Guam also have limitations. Layon is the only permitted landfill on Guam and does not accept either green waste or construction and demolition (C&D) debris, including asbestos containing material that could be part of the C&D debris. The compliance status of the Navy Base landfill on Guam, which is not currently permitted, is uncertain, and the Anderson Air Force Base landfill is undergoing closure.

Recommendation: Identify how the management of solid waste will occur under the Proposed Action and disclose the impacts in the RFEIS. If negotiations are underway to secure a disposal site, provide an update in the RFEIS. Construction of the project should not commence unless there is a compliant landfill capable of accepting project waste.

The RFEIS should include a commitment to follow DoD's Integrated (Non-Hazardous) Solid Waste Management Policy. We recommend a solid waste diversion plan and a green waste management plan be developed, and that the Air Force process all green waste for reuse/composting on the island where it is generated.

Hazardous Waste

The RDEIS provides no information regarding the final disposition of hazardous waste generated from the project, stating only that storage, handling, and disposal would be the responsibility of the contractors (p. 4-124, 4-129). We are not aware of hazardous waste haulers on Tinian. Guam does not have any permitted commercial or military hazardous waste disposal facilities. For temporary storage on Guam, it is our understanding that the Air Force would need to obtain written approval from the Guam EPA Administrator prior to transport to Guam.

The RDEIS states that the Proposed Action would develop and implement a Spill Prevention, Control and Countermeasures (SPCC) Plan (p. 4-58). Based on the proposed volumes and activities, Facility Response Planning⁸ is also applicable. Both the SPCC Plan and Facility Response Plan (FRP) would need to be in place and fully certified by a professional engineer and ready for full implementation at the time fuel is first placed into any tankage.

Recommendations: Clarify how hazardous wastes would be managed, stored and disposed in accordance with the Resource Conservation and Recovery Act (RCRA) and how transportation of hazardous materials would meet the requirements of RCRA and the U.S. DOT, as appropriate.

Identify the requirement for FRP in the RFEIS. EPA is available to provide technical support if needed to ensure SPCC and FRP requirements are met. Please contact Pete Reich of EPA Region 9's Oil Program at 415-972-3052 with any questions. EPA would inspect the operations for full compliance shortly after startup.

⁸ See <http://www2.epa.gov/oil-spills-prevention-and-preparedness-regulations/facility-response-plan-frp-overview>

Use of Fighter Aircraft evaluated in other NEPA documents

The project description in the RDEIS has been changed to eliminate fighter aircraft from proposed exercises (p. 2-2). However, the RDEIS states that a limited number of scheduled joint military training activities and exercises would occur, as described and analyzed in the Mariana Islands Range Complex (MIRC) and the Mariana Islands Testing and Training EISs (p. 2-9), and that the analysis in this EIS is limited to the shift of some of the aircraft already operating during these exercises to the airport or airports proposed for improvements (p. 2-8). While the Air Force has confirmed that no fighter jets are included in this action⁹, the above statement seems to suggest that fighter aircraft take-offs and landings evaluated in other EISs could utilize the improved airports on more than an emergency basis. The RDEIS states that while the analysis is based on the KC-135, the precise mixture of aircraft during exercises could vary depending upon mission requirements (p. 2-7). Table 4.1-4 indicates that F-16's are part of Alternative 1 at Saipan International Airport (p. 4-5), however the Air Force informed us that this was a data artifact from an emergency landing of one F-16 in 2012.

Recommendation: Clarify in the Revised FEIS whether the airport improvements proposed under the proposed action could enable their use by fighter jets, the impacts of which were evaluated in other NEPA documents. If the proposed action would enable new landings by fighter jets at the improved airports for Divert, their impacts should be evaluated and disclosed in this Revised EIS.

⁹ Teleconference between Karen Vitulano, USEPA, and Mark Petersen and other personnel, USAF, November 18, 2015